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Success Story

ORB_IT SOFTWARE ALLOWS ENTERPRISE-WIDE COMPUTING

Object Request Broker (ORB), known as ORB_IT, provides seamless connectivity to distributed databases of many different kinds and may save about 95% of the cost and effort needed to convert legacy databases into modern databases. To facilitate transition of data, organizations will develop "software adoptions," which will require about 5% of the effort needed to obtain data from legacy data sources to ORB_IT and the network.

An organization does not need to "retire" all its legacy computing platforms and applications and buy new computing systems. In a large organization, such use of legacy platforms and applications can result in savings of millions of dollars, which otherwise would be spent on purchasing newer computing platforms and rewriting the legacy applications to run on modern systems.

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Accomplishment

A Small Business Innovation Research Phase II contract effort between the Materials and Manufacturing Directorate and Systran Federal Corporation developed a real-time communications service called ORB_IT. ORB_IT resolves heterogeneous platform issues and provides end users with seamless reliability that makes enterprise-wide data processing as simple as performing data processing on a personal computer. The service hides all the details of the corporate network from the user.

Background

Data processing in the heterogeneous manufacturing information systems environment is cumbersome and time consuming. In many enterprises, including the government, users characterize this environment by dissimilar computer hardware, dissimilar operating systems, dissimilar databases, and application programs written in many different languages.

When users of a system require data from the network, they spend considerable time searching for the needed data, trying to obtain the data in the proper electronic form. In such a highly heterogeneous environment, an employee may find data processing, using all the complete sets of enterprise data, to be extremely cumbersome unless sophisticated software, such as ORB_IT, is available.

ORB_IT software is multi-layered and consists of several modules such as Object Transport Layer (OTL), Data Exchange (DE), Portable Binary Input Output (PBIO), and Threads. OTL is a key module since it is responsible for transporting all object invocations and responses. DE and PBIO are software packages needed for connection establishment between clients and server applications, and for performing data marshaling. Systran designed ORB_IT to work with system threads (including real-time system threads) and user-level threads.

Materials and Manufacturing
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Additional information

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